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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/089,170

03/17/2002

Masakazu Sagawa

NIT-336

9702

24956

7590

11/23/2005

MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C.  
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ALEXANDRIA, VA 22314

EXAMINER

GUHARAY, KARABI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 11/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**Application No. 

10/089,170

Applicant(s)

SAGAWA ET AL.

Examiner

Karabi Guharay

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on Amendment, filed on 9/8/05.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 7-9, 21-23 and 30-32 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 7-9, 21-23 & 30-32 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

Amendment, filed on 09/08/2005 has been considered and entered.

Claims 1-6, 10-20 & 24-29 are cancelled.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 22 recites the limitation "the step 4" in line 2. There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 7-9, 21-23 & 30-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Kusunoki et al. (JP 11-120898).

Regarding claims 7, 9, 30 & 32, Kusunoki et al. disclose a field emission cold cathode display device (Fig 32), having a first substrate (10) in which electron sources (2) are disposed (paragraph 34), a frame glass (60) and a second substrate (110) having phosphor (114A, paragraph 35), the electron source comprising of a plurality of electron source elements (Fig 24 & Fig 19), each of which has a structure in which a bottom electrode (11) an insulating layer (12) and a top electrode (13) are laminated in this order (paragraph 0009-0010) and a plurality of bus electrodes (15) connected to apply a driving voltage to an electron source element, wherein the bus electrode (15)

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comprises a thin film electrode (15A) connected to an electrode (top electrode 13) and a thick film electrode (15B) connected to the thin film electrode (15A, see paragraph 0023), the thick film electrode having a film thickness (1micrometer, see paragraph 0028) thicker than that of a thin film electrode (thickness of 15A is 20 nm), further discloses that the thick film electrode (15B) is formed by vacuum evaporation (paragraph 28).

Kusunoki et al. further discloses that the thin film bus electrode (15A) forms with Pt and the up electrode 13 is formed also with same material (see paragraph 26 & 30), but fail to disclose that they are integrated.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form top electrode (13) and the thin film bus electrode integrally, since it has been held that forming in one piece which has been formed in two pieces and put together involves only routine skill in the art.

Regarding claims 8 & 31, Kusunoki discloses that the thick film electrode (15B) has an open area where the insulating layer 12 is formed(see Fig 19).

Regarding claims 21, Kusunoki discloses the method of manufacturing thin film type electron emitter as claimed in claim 7 (see rejection of claim 7) method comprising forming the bottom electrode 11, then forming the insulating layer 12, and forming a thin conductive film on the bottom electrode and the insulating layer and selectively forming a thick film electrode on the thin film by deposition which could be plating or printing, forming the thin film electrode and top electrode by selectively patterning the thin film (pt film) for forming top electrode and the thin film (pt film) for forming thin film electrode.

But Kusunoki fails to disclose that patterning the thin conductive bus film integrally forms top electrode and thin film electrode.

However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to form top electrode (13) and the thin film bus electrode integrally by selectively patterning, since it has been held that forming in one piece which has been formed in two pieces and put together involves only routine skill in the art.

Claim 22 recites the same limitations of claim 8. Thus claim 22 is rejected as claim 8 (see Rejection of claim 8).

Regarding claim 23, Kusunoki discloses that the thin film electrode comprises a tungsten film (see paragraph 0026).

### ***Response to Arguments***

Applicant's arguments filed 09/08/2005 have been fully considered but they are not persuasive, since, prior art thin film bus electrode (15A) and the top electrode (13) are made of same materials and are connected to each other for supplying appropriate voltage to the electrode and having proper connection to the thick film bus electrode with the top electrode (13) through thin film bus electrode. Prior art further teaches that a strong adhesion or connection between top electrode and the thin film bus electrode are desired.

Further use of one-piece construction instead of two pieces held or put together involves routine skill in the art and would be merely a matter of obvious design choice. See *Schenck v. Nortron Corp.*, 713 F.2d 782, 218 USPQ 698 (Fed. Cir. 1983).

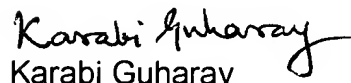
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***Contact Information***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karabi Guharay whose telephone number is (571) 272-2452. The examiner can normally be reached on Monday-Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Karabi Guharay  
Patent Examiner  
Art Unit 2879